IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
REQUEST FOR FILING NATIONAL PHASE OF
PCT APPLICATION UNDER 35 U.S.C. 371 AND 37 CFR 1.494 OR 1.495

OCT 1 6 2000

To: Hon. Commissioner of Patents
Washington, D.C. 20231

TRANSMITTAL LETTER TO THE UNITED STATES   Atty Dkt: **PM 274024**   /114416.6/DV/MB
DESIGNATED/ELECTED OFFICE (DO/EO/US)   M#   /Client Ref.

From: Pillsbury Madison & Sutro LLP, IP Group: Date: October 16, 2000

This is a **REQUEST** for **FILING** a PCT/USA National Phase Application based on:

1. International Application	2. International Filing Date	3. Earliest Priority Date Claimed
PCT/CH98/00148	17 April 1998	17 April 1998
⇧ country code	Day MONTH Year	Day MONTH Year
		(use item 2 if no earlier priority)

4. Measured from the earliest priority date in item 3, this PCT/USA National Phase Application Request is being filed within:

   (a) ☐ 20 months from above item 3 date   (b) ☒ 30 months from above item 3 date,

   (c) Therefore, the due date (unextendable) is October 17, 2000

5. Title of Invention DATA BROADCASTING SYSTEM AND DATA BROACASTING METHOD

6. Inventor(s) HEUTSCHI, Walter et al

Applicant herewith submits the following under 35 U.S.C. 371 to effect filing:

7. ☒ Please immediately start national examination procedures (35 U.S.C. 371 (f)).

8. ☐ A copy of the International Application as filed (35 U.S.C. 371(c)(2)) is transmitted herewith (file if in English but, if in foreign language, file only if not transmitted to PTO by the International Bureau) including:

   a. ☐ Request;
   b. ☐ Abstract;
   c. _____ pgs. Spec. and Claims;
   d. _____ sheet(s) Drawing which are ☐ informal ☐ formal of size ☐ A4 ☐ 11"

9. ☒ A copy of the International Application has been transmitted by the International Bureau.

10. A translation of the International Application into English (35 U.S.C. 371(c)(2))
   a. ☒ is transmitted herewith including: (1) ☒ Request; (2) ☒ Abstract;
       (3) __16__ pgs. Spec. and Claims;
       (4) __2__ sheet(s) Drawing which are:
            ☐ informal ☒ formal of size ☒ A4 ☐ 11"
   b. ☐ is not required, as the application was filed in English.
   c. ☐ is not herewith, but will be filed when required by the forthcoming PTO Missing Requirements Notice per Rule 494(c) if box 4(a) is X'd or Rule 495(c) if box 4(b) is X'd.
   d. ☒ Translation verification attached (not required now).

11. ☒ **PLEASE AMEND** the specification before its first line by inserting as a separate paragraph:
    a. ☒   --This application is the national phase of international application PCT/CH98/00148
             filed ___April 17, 1998___ which designated the U.S.--
    b. ☐   --This application also claims the benefit of U.S. Provisional Application No.
             60/_____, filed _____ .--

12. ☐ Amendments to the claims of the International Application **under PCT Article 19 (35 U.S.C.
       371(c)(3)), i.e., _before 18th month_ from first priority date above in item 3, are transmitted
       herewith (file only if in English) including:**

13. ☒ PCT Article 19 claim amendments (if any) have been transmitted by the International Bureau

14. ☐ Translation of the amendments to the claims **under PCT Article 19 (35 U.S.C. 371(c)(3)), i.e., of
       claim amendments** made before 18th month, **is attached (required by 20th month from the date in
       item 3 if box 4(a) above is X'd, or 30th month if box 4(b) is X'd, or else amendments will be
       considered _canceled_).**

15. **A declaration of the inventor (35 U.S.C. 371(c)(4))**
    a. ☒ is submitted herewith   ☒ Original   ☐ Facsimile/Copy
    b. ☐ is not herewith, but will be filed when required by the forthcoming PTO Missing Requirements Notice
          per Rule 494(c) if box 4(a) is X'd or Rule 495(c) if box 4(b) is X'd.

16. **An International Search Report (ISR):**
    a. Was prepared by   ☒ European Patent Office   ☐ Japanese Patent Office   ☐ Other
    b. ☒ has been transmitted by the international Bureau to PTO.
    c. ☒ copy herewith (2 pg(s).)   ☒ plus Annex of family members (1 pg(s).).

17. **International Preliminary Examination Report (IPER):**
    a. ☒   has been transmitted (if this letter is filed after 28 months from date in item 3) in English by the
            International Bureau with Annexes (if any) in original language.
    b. ☐   copy herewith in English.
    c.1 ☒ IPER Annex(es) in original language ("Annexes" are amendments made to claims/spec/drawings
            during Examination) including attached amended:
    c.2 ☒ Specification/claim pages #2,2a,8, 12 - 18 claims #_1 - 45_
            Dwg Sheets #
    d. ☒   Translation of Annex(es) to IPER   **(required by 30th month due date, or else annexed
            amendments will be considered _canceled_).**

18. **Information Disclosure Statement** including:
    a. ☒ Attached Form PTO-1449 listing documents
    b. ☐ Attached copies of documents listed on Form PTO-1449
    c. ☒ A concise explanation of relevance of ISR references is given in the ISR.

19. ☒ **Assignment** document and Cover Sheet for recording are attached. Please mail the recorded
       assignment document back to the person whose signature, name and address appear at the end of
       this letter.

20. ☒ Copy of Power to IA agent.

21. ☐ **Drawings** (complete only if 8d or 10a(4) not completed): ___ sheet(s) per set: ☐ 1 set informal;
       ☐ Formal of size   ☐ A4   ☐ 11"

22.   Small Entity Status ∅   ☐ is **Not** claimed   ☐ is claimed (**pre-filing confirmation required**)
22(a) _____ (No.) Small Entity Statement(s) enclosed (since 9/8/00 Small Entity Statements(s) not essential to
       make claim)

23.   **Priority** is hereby claimed under 35 U.S.C. 119/365 based on the priority claim and the certified copy, both
       filed in the International Application during the international stage based on the filing
       in (country) _____ of:

	Application No.	Filing Date		Application No.	Filing Date
(1)			(2)		
(3)			(4)		
(5)			(6)		

       a. ☒ See Form PCT/IB/304 sent to US/DO with copy of priority documents. If copy has not been
              received, _please proceed promptly to obtain same from the IB._
       b. ☐ Copy of Form PCT/IB/304 attached.

RE: USA National Filing of PCT/CH98/00148

529 Rec'd PCT/PTO 16 OCT 2000

24.   Attached:

25.   **Preliminary Amendment:**   ATTACHED

25.5   Per Item 17.c2, **cancel original** pages #_____, claims #_____, Drawing Sheets #

26.   **Calculation of the U.S. National Fee (35 U.S.C. 371 (c)(1)) and other fees is as follows:**
Based on amended claim(s) per above item(s) ☐ 12, ☐ 14, ☒ 17, ☒ 25, ☐ 25.5 (hilite)

Total Effective Claims	45	minus 20 =	25	x $18/$9	=	$450		966/967
Independent Claims	2	minus 3 =	0	x $80/$40	=	$0		964/965
If any proper (ignore improper) Multiple Dependent claim is present,				add$270/$135		+0		968/969

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(4)): ➔➔ **BASIC FEE REQUIRED, NOW** ➔➔➔➔
⬇

A.   If country code letters in item 1 are **not** "US","BR","BB","TT","MX","IL","NZ", "IN" or "ZA"
⬇

See item 16 re:
1.   Search Report was not prepared by EPO or JPO - - - - - - - - -   add$1000/$500   960/961
2.   Search Report was prepared by EPO or JPO - - - - - - - - - - -   add$860/$430   +860   970/971

SKIP B, C, D AND E UNLESS country code letters in item 1 are "US","BR","BB","TT","MX","IL", "NZ", "IN" or "ZA"
⬇

➔ ☐ B.   If USPTO did not issue both International Search Report
(X)   (ISR) and (if box 4(b) above is X'd) the International   add$970/$485   +0   960/961
              Examination Report (IPER), - - - - - - - - - - - - - - - - - -

(only)
(one) ➔ ☐ C.   If USPTO issued ISR but not IPER (or box 4(a) above is
(of)   X'd), -   add$710/$355   +0   958/959

(these)
(4) ➔ ☐ D.   If USPTO issued IPER but IPER Sec. V boxes not all 3
(boxes)   YES, -   add$690/$345   +0   956/957

➔ ☐ E.   If international preliminary examination fee was paid to   962/963
              USPTO and Rules 492(a)(4) and 496(b) satisfied (IPER
              Sec. V all 3 boxes YES for all claims), - - - - - - - - - - -   add $100/$50   +0

27.   **SUBTOTAL =** $1310

28.   If Assignment box 19 above is X'd, add Assignment Recording fee of ----$40   +40   (581)

29.   Attached is a check to cover the -   **TOTAL FEES** $1350

Our Deposit Account No. 03-3975
Our Order No.   60237 | 274024
                                C#   M#

CHARGE STATEMENT: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be
filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 and 492 (missing or insufficient fee only) now
or hereafter relative to this application and the resulting Official document under Rule 20, or credit any overpayment, to our Account/Order Nos. shown above for which purpose a
duplicate copy of this sheet is attached.
This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal form is filed

Pillsbury Madison & Sutro LLP
Intellectual Property Group

1100 New York Avenue, NW	By Atty: Dale S. Lazar	Reg. No. 28872
Ninth Floor		
Washington, DC 20005-3918	Sig:	Fax: (202) 822-0944
Tel: (202) 861-3000		Tel: (202) 861-3527
Atty/Sec: DSL/mhn		

          NOTE: File in duplicate with 2 postcard receipts (PAT-103) & attachments.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF

HEUTSCHI et al.

Application No.: New Application	Group Art Unit: Unknown
Filed: October 16, 2000	Examiner: Unknown

FOR: DATA BROADCASTING SYSTEM AND DATA BROADCASTING METHOD

*   *   *   *   *   *   *

October 16, 2000

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents
  and Trademarks
Washington, D.C. 20231

Sir:

Please enter the following amendments and consider the following remarks prior to examination.

IN THE CLAIMS:

Claim 2, line 1, change "the preceding claim" to --claim 1--.

Claims 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 18, 19, 20, 21, 22, line 1, change "one of the preceding claims" to --claim 1--.

Claim 11, line 1, change "the preceding claim" to --claim 10--.

Claim 12, line 1, change "one of the claims 10 to 11" to --claim 10--.

Claim 13, line 1, change "one of the claims 10 to 12" to --claim 10--.

Claim 17, line 1, change "the preceding claim" to --claim 16--.

Claim 24, line 1, change "the preceding claim" to --claim 23--.

Claim 25, lines 1 and 2, change "one of the claims 23 or 24" to --claim 23--.

Claim 26, lines 1 and 2, change "one of the claims 23 to 25" to --claim 23--.

Claim 27, lines 1 and 2, change "one of the claims 23 to 26" to --claim 23--.

Claim 28, lines 1 and 2, change "one of the claims 23 to 27" to --claim 23--.

Claim 29, lines 1 and 2, change "one of the claims 23 to 28" to --claim 23--.

Claim 30, lines 1 and 2, change "one of the claims 23 to 29" to --claim 23--.

Claim 31, lines 1 and 2, change "one of the claims 23 to 30" to --claim 23--.

Claim 32, lines 1 and 2, change "one of the claims 23 to 31" to --claim 23--.

Claim 33, lines 1 and 2, change "one of the claims 23 to 32" to --claim 23--.

Claim 34, line 1, change "the preceding claim" to --claim 33--.

Claim 35, lines 1 and 2, change "one of the claims 33 or 34" to --claim 33--.

Claim 36, lines 1 and 2, change "one of the claims 34 to 25" to --claim 34--.

Claim 37, lines 1 and 2, change "one of the claims 23 to 36" to --claim 23--.

Claim 38, lines 1 and 2, change "one of the claims 23 to 37" to --claim 23--.

Claim 39, lines 1 and 2, change "one of the claims 23 to 38" to --claim 23--.

Claim 40, line 1, change "the preceding claim" to --claim 39--.

Claim 41, lines 1 and 2, change "one of the claims 23 to 40" to --claim 23--.

Claim 42, lines 1 and 2, change "one of the claims 23 to 41" to --claim 23--.

Claim 43, lines 1 and 2, change "one of the claims 23 to 42" to --claim 23--.

Claim 44, lines 1 and 2, change "one of the claims 23 to 43" to --claim 23--.

Claim 45, lines 1 and 2, change "one of the claims 23 to 44" to --claim 23--.

Respectfully submitted,

PILLSBURY MADISON & SUTRO LLP

By _____

Dale S. Lazar
Reg. No.: 28872
Tel. No.: (202) 861-3527
Fax No.: (202) 822-0944

DSL/ans
1100 New York Avenue, N.W.
Ninth Floor
Washington, D.C. 20005-3918

Data Broadcasting System and Data Broadcasting Method

The present invention relates to a method and a system for broadcasting data to users through a multiplicity of addressed broadcasting channels.

In the state of the art, data from one or more servers in a telecommunica-
5 tions network, in particular multimedia data, are transmitted to the users either in pull mode or in push mode. In pull mode, the data remain stored in the server until a user downloads them in a terminal via a telecommunications network. This type of transmission thus requires the active participation of the user, who has to search for the necessary data himself and decide which information he would like
10 to receive.

This active search is only possible, however, if the data are transmitted over a bidirectional telecommunications network, for example over the public telephone network. Furthermore, a minimum amount of computer science knowledge and a not insignificant expenditure of time is required to find relevant
15 data.

In the push mode (broadcasting), the data are transmitted from a server to all user terminals at the same time, which terminals receive these data passively. Depending upon channel type, these data can either be filtered and temporarily stored in the terminal of the user or can be shown immediately or passed on.
20 Most broadcasting systems are purely monodirectional and therefore have no backward channel by means of which the user can reply to the transmitter. That is the case, for example, in the common radio and television broadcasting systems. If the recipient, for example the radio listener or the television viewer, would like to react to a broadcast or to a commercial, he therefore has to access
25 another telecommunications system, for example his telephone. This procedure is extremely inconvenient and error-prone. The common broadcasting systems are thus only partially suitable for motivating users to make spontaneous purchases during or immediately after a commercial. The teletext system or DAB (Digital Audio Broadcasting) system can be mentioned, for example, as digital
30 broadcasting channels.

Bidirectional push channels have recently come into being which have a supplementary backward channel. In particular, multimedia data are being transmitted more and more frequently via the Internet in push mode. In this case the users can reply to the information suppliers by e-mail.

5   In the usual push systems, the same, entire program is transmitted to all users from one or more servers. Each user terminal in this case includes a filter by means of which only that data which interest the user are stored or displayed. For example, if a complete information program is transmitted to a recipient, he decides to store or display only the information on sports or politics. Use of the
10   bandwidth of the channel is thus not optimal: data are transmitted also to users who are not interested in them. Moreover the users have to wait until the information they are interested in is sent.

The usual data broadcasting systems are dependent upon a particular broadcasting channel. The user must therefore be equipped with a suitable
15   terminal in order to be able to access the information of a particular information supplier. The user generally does not have the possibility, however, of selecting a terminal of any desired type in order to access the data of a particular information supplier. Vice-versa, the information supplier cannot easily broadcast his collection of information through different broadcasting channels.

20   In the printed patent specification U.S. 5,592,626, a network system is described for the transmission of multimedia programs to a multiplicity of users, the transmission taking place at points in time specified beforehand by the users. According to the teaching of U.S. 5,592,626, the transmission times specified by the users are received by a scheduler, who established in each case a network
25   server path via which a multimedia program selected by a respective user is transmitted efficiently and at the specified point in time to the respective user, the network servers receiving the multimedia programs, temporarily storing them in a cache memory, and passing them on directly to a respective user or to a further network server.

30   **AMENDED PAGE**

Described in the patent application WO 98/03928 is a web server system which receives digital documents, for example e-mail messages or fax messages, from respective terminals, converts the received digital documents into documents of HTML format (hypertext markup language) and stores the HTML documents in
5   a data base, which can be looked at by users via the Internet, the HTML documents being transmitted to the users over the Internet.

It is therefore an object of the present invention to offer a data broadcasting system which avoids these drawbacks.

This object is attained, according to the invention, with the aid of a method
10 and of a system having the features of the respective independent claims, preferred embodiments being cited in the dependent claims.

The invention will be better understood with the aid of the description, given by way of example, and illustrated by the figures, whereby

Figure 1 is a diagrammatic view of the system according to the invention,
15 and

Figure 2 shows the format of an order code.

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25   **AMENDED PAGE**

Designated by 1, 1',.. are various servers of different information suppliers. A news agency, a stock market institution, a weather service, a newspaper, a firm, a product supplier, etc., can fulfil the role of the information provider. These suppliers have available one or more servers 1, 1', .. of different types in which

5 information made available is filed according to different storage standards. The data broadcasting system 17 of the present invention can access these data through one or more networks 2, 2', .., for example as FTP data via Internet. The data transmission between the servers 1 and the system 17 can also take place, however, via other networks, for example as teletext page, as DAB, FM-Swift or

10 FM-DARC-radio-program-accompanying data, through a television or radio channel, by normal mail, in the push mode or in the pull mode, etc.

The received data are then filed in the information data bases 3, 3',.. in the data broadcasting system 17. The system 17 preferably consists of a specially programmed data processing unit with access to different telecommunications

15 systems 2, 8. In this example, one data base 3, 3', 3" per information supplier is provided; it would also be possible, however, to provide one data base in which data from several or all information suppliers 1, 1',.. would be filed. The system 17 can also include a data base 3" or a data base area in which internal information of the system operator 17 is filed.

20 Depending upon the information service 1, the respective data base 3 can comprise a complete copy of the data offered in structured form, for example a complete copy of a web site or only a link to these data, or in most cases only an excerpt from these data. In this case filter means (not shown) are preferably provided to sort out only the relevant data from a service provider. In a variant,

25 the system 17 can automatically search in the various telecommunications networks 2, 2' at different information suppliers based on user criteria. For example, all information about a sports team or about the value of a stock are automatically searched for in the Internet by the system 17, if at least one user has ordered these data. Different search means and search engines can be used

30 for this purpose; search agents (so-called bots) can also be used for this purpose.

The filed data in the data bases 3, 3',.. are then disseminated to the users by means of the information dispatcher 5. The information dispatcher comprises a data base 50 which contains the transmission criteria for the information filed in the data bases 3, 3', 3", ... A module 51 checks the transmission criteria, and generates corresponding transmission schedules for broadcasting the data to the users. The transmission criteria are entered by the users themselves, and determine which data have to be transmitted to which users or user groups when and according to which criteria.

The users can define, for example, at least the following transmission criteria:

- The category of the desired information (for example: "I want to receive all information on this sports team")

- Optionally, a special data service (for example: "I want all information from the weather service")

- Transmission time criteria (for example: "I want to receive this data this evening between 7 and 9 p.m.")

- Transmission periodicity criteria (for example: "I want to receive these data every evening between 7 and 9 p.m.")

- Event criteria (for example: "I want to be informed immediately if a sports team wins a game or if a stock exceeds a certain value)

- A broadcasting channel over which this information has to be transmitted (for example as e-mail, as SMS message for a mobile radio device, as messages for a pager network, as DAB data, etc.)

- The validity (for example between January 1998 and January 1999).

- Etc.

These transmission criteria are linked in the data base 50 with the address of the user to whom the data have to be transmitted. A list of user addresses can preferably be entered, for example a list of all members of an association or a firm, who are supposed to receive certain data. The transmission of advertise-

ments to all users or to larger user groups can thereby be programmed, for example. Depending upon the broadcasting channel, the user address can be formulated differently; it corresponds, for example, to the IMSI (international mobile subscriber identity) or to the MSISDN (mobile subscriber identification

5   number) of the user in the case of a SMS message, an e-mail address in the case of an e-mail, a normal mailing address in the case of a normal mail dispatch, etc.

Transmission criteria can preferably also be defined for predefined sets of data and information from different information suppliers. For example, a single transmission criterion can be defined for a particular event, for example an

10   exhibition or a cultural event, for transmitting information concerning this event from different information suppliers to all interested parties and to visitors, for example for transmitting a current exhibition program, a timetable, information about parking spaces, etc., to different terminals 9, 9',...

On the basis of the transmission criteria entered, the information dispatcher

15   5 generates a transmission schedule for each output driver 7, 7', 7". Each trans-mission schedule comprises a list of data (or of links to these data) obtained from the data bases 3, 3', 3", as well as transmission criteria and a user address for these data. The data are adapted and formatted each depending upon the output driver. The different transmission schedules are generated automatically or

20   manually with the help of an operator; an operator can preferably consult, administrate, or respectively change the generated transmission schedule also in the case of an automatically generated transmission schedule.

Not all data can be transmitted through all available channels. Multimedia data can be sent as e-mail, for example, but possibly not as a message for every

25   pager device. Moreover the bandwidth of the different broadcasting channels, of the users and of the information dispatcher 5 is not unlimited so that certain data possibly cannot be transmitted or cannot be transmitted at the requested point in time. The module 51 therefore carries out checks to detect these conflicts and to resolve them automatically, if possible, in that many data are postponed in the

30   transmission schedule, for example, or are shifted into another transmission schedule corresponding to another channel. If, owing to certain data, the module

51 cannot resolve a bandwidth conflict, these data are not entered in the transmission schedule, and the user is informed, for example by an e-mail through a free channel.

The following plausibility checks are carried out when data are entered into a transmission schedule:

- Size of the data: data which are larger than a predefined size in bytes cannot be entered into a transmission schedule;

- Maximal resolution in the case of a picture object which may not exceed the resolution of the terminal 9, 9',..

- Format of the data which must be compatible with the terminal.

The module 51 attempts to take into consideration all entered transmission criteria of all users when creating transmission schedules. These transmission schedules are then carried out by respective output drivers 7, 7', 7'' in order to transmit the selected data through the various broadcasting channels. The execution of a transmission schedule corresponds to the transmission of indicated data to the user or to the user group if the indicated transmission criteria are fulfilled, for example at the indicated point in time or for a event-controlled transmission criterion when an external event is recognized.

The system 17 preferably contains output drivers in order to be able to transmit the selected data in the following formats through all or several of the following channels:

- As digital messages to mobile radio telephones (9) through a cellular digital mobile radio network (8), or as e-mail to a WAP (Wireless Application Platform) - compatible mobile device;

- As pager messages through a pager network;

- As e-mail through Internet or through another telecommunications network;

- As a radio program-accompanying service in a DAB radio program (e.g. DAB, FM-Swift or FM-DARC);

- As a teletext page in a teletext system;

- As fax through an ISDN network or through the public telephone network;

- As a letter by normal mail;

5   • As a picture on display panels or on screens;

- As a verbal message on a telephone, for example with a speech synthesizer;

- Etc.

Depending upon the broadcasting channel, the output driver 7, 7', 7" can 10 comprise completely different components. In the case of transmission as e-mail, as short message or through a mobile radio network, or for example as fax, the output driver can consist of a modem and suitable software means. In the case of transmission as a letter for the mail, the dissemination can also comprise manual operations, for example writing the letter and putting stamps on the envelopes.

15   The transmitted data are sent to the indicated user via a corresponding channel 8, 8', 8" and are received on a terminal 9, 9', .., for example on a mobile device, on a fax machine, as e-mail on a computer, etc. The transmitted data can contain a simple text content or also a multimedia content. In the latter case, the data can also contain multimedia objects, for example sound data, still or moving 20 pictures, etc., instead of, or in addition to, text messages.

The system 17 preferably comprises a billing module 6 to bill the trans-mission of data to the users. This billing can depend, for example, on the quantity of transmitted data, on the transmission time, on the number of transmission criteria, on the quantity or the type of requested information, etc. Users can 25 preferably also subscribe to certain standard services, for example daily weather forecasts. The billing can be carried out, for example, by invoice, by credit card, by telephone bill, by debiting an account with the system operator, etc. Part of the paid amount can preferably be reimbursed to the information supplier 1 at least in many cases.

The users can preferably access the data base 50 through different channels to administrate the transmission criteria. For this purpose the system preferably has different input drivers 15, 15', 15'', etc. A module 16 controls these different drivers, and forms a unified interface to the information dispatcher 5.

5　The transmission criteria can be administered, for example, via Internet (11); in this case the corresponding input driver comprises preferably a web server. The user can enter the required criteria on his computer 10 with a suitable form, the form preferably carrying out already some formal and coherence checks. The user can preferably establish the transmission criteria also by letter or by

10　telephone.

The user can define transmission criteria for himself. Optionally, he can also enter transmission criteria for other indicated users or user groups, with or without authorization of these users. For example, a firm can enter a list of potential clients who must receive a particular advertisement, or an exhibition

15　organizer can have the information relevant for visitors broadcast to all interested parties or to all ticket purchasers in this way.

The transmission criteria in the data base 50 can preferably be administered also with special messages, for example with SMS or USSD messages prepared in a mobile device 9. These messages are transmitted, for

20　example, via a GSM mobile radio network 8 and a short message service center SSC (not shown).

According to the invention, the transmission criteria can also be entered and administered by means of standardized order codes 18. Figure 2 shows such an order code as an example. As explained below, the format of the order code is

25　defined in a fixed way and makes possible, for example, the ordering of products or services at different suppliers, besides the administration of transmission criteria. The patent application WO 98/28900 describes a possible format for order codes. Order codes contain several fields, the format of which is standardized, and which are designated by the reference symbols 19 to 28. The

30　field 19 contains a header, and indicates that what is involved here is actually an order code. In the simplest case, the header comprises only one single ASCII

AMENDED PAGE

in this case the letter F. The second field 20 is a pre-defined field delimiter, here an asterisk, in order to separate other fields. The next field 21 contains an identification of the supplier: e.g. an abbreviation or a mnemonic code which clearly designates a particular supplier. For this application the field 21 contains
5   a designation which clearly identifies the data broadcasting system 17. This supplier identification can comprise, for example, a country designation which indicates in which country this supplier is primarily active.

The field 22 contains a second field delimiter, in this example again the symbol *. The next field 23 comprises a product identification. Indicated by this
10   abbreviation or designation chosen by a supplier is a particular product in the range of this supplier. In this case this field corresponds preferably to an identification of the transmission criteria-administration service. This field is separated from field 25, which contains a check sum, by a third field delimiter 24. Additional fields 27, 28, separated from field 25 by an additional field delimiter 26, contain
15   the actual transmission criteria, as defined above, as well as an identification of the user or an identification of the terminal 9 on which the data are supposed to be received. Program parts, for example applets in the Java language, or in another object-oriented computer language, can also be transmitted within the fields 27, 28. Menus or lists for the entry of additional parameters can also be
20   defined with these applets, for example.

The fields 19 – 28 can contain any desired combination of alphanumerical symbols. Each alphanumerical symbol can take on 46 different values, for example – 26 letters, 10 numerals and 10 further symbols available on the keyboard of a mobile radio telephone, for example. Further selections of
25   authorized symbols can of course be defined, e.g. in that a differentiation is made between upper and lower case letters. The fields have a variable length; the entire length of the order code can be limited, however, to 48 symbols, for example. In a variant, these fields have a predetermined, fixed length: in this case the field delimiters are not necessary and can be omitted. As a variant, the
30   fields 27, 28 can also contain binary data, for example program parts or objects or links to binary data.

The check sum 25 is established from the fields 21, 23, and possibly 27, 28, through any known error checking and recovery algorithm. For example, a parity check algorithm can be used to establish the value of the check sum 25. The number of symbols in the check sum depends on the algorithm used and on
5   the maximum accepted error quota. This check sum is preferably determined by the supplier, here by the operator of the system 17, and must be captured by the user. In this way errors in entering or transmitting an order code can be detected.

To edit an order code 18, the user selects, for example, a corresponding menu option in a suitable program which is carried out by the processor of the
10   input terminal 9, 10. As a variant, the user can also consult, for example, a corresponding Internet page, or can dial a suitable telephone number. In any case, an entry mask, with which he can enter the desired order code, is shown on the screen of the input device.

The fields 27, 28, which contain the actual transmission criteria, are pre-
15   ferably captured in a suitable editing program. This editing program can, for example, be transmitted as an applet, for example a JAVA applet, into the terminal 9, 10. When a new order code is edited, this applet is transmitted and executed to facilitate the entry of the transmission criteria and of the address in the fields 27, 28.

20   Upon actuation of a particular key on the terminal 9, for example the key #, the selected order code is packed in short messages in a suitable software, for example in SMS messages, in USSD data files or as e-mail, and is transmitted through the mobile radio network 8 to a short message service center (SMSC) 12 of the respective network operator. Optionally, the message can be encrypted
25   partially or completely between the terminal 9 and the center 12. The center 12 is moreover connected to a module 13, which comprises, for its part, a user data base 131 in which additional, user-specific parameters are stored. The user data base 131 corresponds, for example, to the subscriber data base with data on all subscribers with the operator of the network 8, for example with the operator of a
30   mobile radio network. The user is identified in the center 12, for example with the aid of the identification given in the header of the received short message, for

example with the IMSI in the case of a SMS message; this identification is then used as input criterion for the user data base 131 from which additional user-specific parameters are thereby obtained. These additional parameters comprise, for example, the complete address of the user, his billing address, his access rights, his preferred language, etc. These additional data are then linked by a module 130 to the content of the received order code, and are passed on through the network 14 to the data broadcasting system 17. This system 17 receives then a message which contains all necessary transmission criteria as well as a complete identification of the user. These messages are preferably processed by a suitable input driver 15, which checks the transmission criteria with the aid of the module 16, and possibly files them in the data base 50.

The entry of transmission criteria with such order codes can also comprise a bidirectional conversation. If the transmission criteria are not complete, or if the ordered data cannot be sent out at the desired time, the input driver 15 in this case can request a new order code or propose a new order code itself.

Preferably such predefined order codes can also be contained in the data transmitted by the system 17. For example, a transmitted advertisement or other information can contain such an order code which the recipient can pass on if he would like to receive additional information on a particular product, for example, or particular information regularly or at intervals. The user can also order the retransmission of a transmission with this service, for example.

Order codes can also be transmitted directly to the information suppliers 1 or to the product or service provider. In this case, the field 21 in the order code must contain an identification of this supplier in order to be automatically passed on to this supplier by the module 13. The field 21 preferably contains only an abbreviation of the supplier name which is supplemented by the module 13 by means of a supplier data base (not shown) in order to make possible a passing on to the supplier. Such order codes can contain a product or service order, for example; the user can thereby order products or information on products directly at the supplier 1, for example.

Claims

1. A method for broadcasting addressed data to a multiplicity of users (9), in which method at least one information data base (3) is set up that contains the data intended to be sent through a broadcast channel, in which method transmission criteria (50) are stored, at least certain transmission criteria containing an address of a user, or a user group, as well as an indication about the data from the information data base (3, 3') which have to be transmitted to this user or user group, and in which method the data to be transmitted are automatically selected according to the stored transmission criteria, wherein

the filed data are obtained from a multiplicity of external information suppliers (1);

an indication about at least one broadcasting channel, selected from among different broadcasting channels, via which the filed data are to be transmitted, is stored with the transmission criteria; and

the automatically selected data are transmitted through the selected broadcasting channel (8) to the indicated user (9) or to the indicated user group.

2. The method according to the preceding claim, wherein at least certain selected data are transmitted as messages through a cellular digital mobile radio network (8).

3. The method according to one of the preceding claims, wherein at least certain selected data are transmitted as messages for paging systems.

4. The method according to one of the preceding claims, wherein at least certain selected data are transmitted through the Internet as addressed messages, for example as e-mail.

5. The method according to one of the preceding claims, wherein at least

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certain selected data are transmitted through a teletext channel as a teletext page.

6. The method according to one of the preceding claims, wherein at least certain selected data are transmitted through a public telecommunications network as a fax.

7. The method according to one of the preceding claims, wherein selected data may be shown on display panels.

8. The method according to one of the preceding claims, wherein at least certain selected data are multimedia data.

9. The method according to one of the preceding claims, wherein at least certain transmitted information comprises at least one order code which the recipients (9) pass on directly to a supplier (1, 17) to order products or services.

10. The method according to one of the preceding claims, wherein at least certain of the users administrate transmission criteria (50) through at least one telecommunications system (8, 14).

11. The method according to the preceding claim, wherein at least certain of the users administrate transmission criteria (50) through the Internet (11).

12. The method according to one of the claims 10 to 11, wherein at least certain of the users administrate transmission criteria (50) with special messages through a mobile radio network (8).

13. The method according to one of the claims 10 to 12, wherein at least certain of the users administrate transmission criteria (50) with standardized order codes through a mobile radio network (8), the identity of the users being automatically established with a user data base (131) in the mobile radio network.

14. The method according to one of the preceding claims, wherein the

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transmission criteria comprise at least one category of desired information.

15. The method according to one of the preceding claims, wherein at least certain of the transmission criteria comprise at least one data service.

16. The method according to one of the preceding claims, wherein at least certain of the transmission criteria comprise a standardized set of various data from different information providers (1).

17. The method according to the preceding claim, wherein the particular data in the set comprise all the information concerning an exhibition necessary for the visitors.

18. The method according to one of the preceding claims, wherein at least certain of the transmission criteria comprise transmission time criteria.

19. The method according to one of the preceding claims, wherein at least certain of the transmission criteria comprise transmission periodicity criteria.

20. The method according to one of the preceding claims, wherein at least certain of the transmission criteria comprise event criteria.

21. The method according to one of the preceding claims, wherein at least certain of the transmission criteria indicate certain data which are filed in the information data base (3) only if at least one user has selected these data.

22. The method according to one of the preceding claims, wherein the transmission of data to the user is billed with a billing system.

23. A data broadcasting system (17) for the broadcasting of addressed data to a multiplicity of users (9) which data broadcasting system (17) contains at least one information data base (3) in which data are able to be filed that are intended to be transmitted through a broadcasting channel (8), which data broadcasting system (17) contains a storage area (50) in which storage area (50) transmission criteria for each user (9) or each user group are able to be filed, at least certain transmission criteria containing an address of a user or a

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user group as well as an indication about the data from the information data base (3, 3') which have to be transmitted to this user or this user group, and which data broadcasting system (17) comprises an information dispatcher (5) for automatic selection of data from the information data base (3, 3'), which

5   data fulfil the desired transmission criteria of at least one user (9), wherein

the data broadcasting system (17) is set up such that the able to be filed data from a multiplicity of information suppliers (1) are transmitted through at least one communication channel (2) in the information data base (3, 3'),

the transmission criteria comprise an indication about at least one

10   broadcasting channel selected from among different broadcasting channels (8, 8', 8") through which the data from the information data base are to be transmitted, and

the data broadcasting system (17) comprises at least one output driver (7) for transmission of selected data through the selected broadcasting channel

15   (8) to the respective user (9) or user group.

24. The data broadcasting system according to the preceding claim, wherein it comprises a plurality of output drivers (7) for transmission of data to the user (9) through a corresponding multiplicity of transmission channels (8) in accordance with the filed transmission criteria.

20   25. The data broadcasting system according to one of the claims 23 or 24, wherein the said output drivers (7) comprise at least one driver for a cellular digital mobile radio network (8) to transmit selected data as messages to mobile radio telephones (9).

26. The data broadcasting system according to one of the claims 23 to

25   25, wherein the said output drivers (7) comprise at least one driver for a pager network to transmit selected information as pager messages to pager terminals.

27. The data broadcasting system according to one of the claims 23 to 26, wherein the said output drivers (7) comprise at least one driver for the

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Internet, to transmit selected information as e-mail.

28. The data broadcasting system according to one of the claims 23 to 27, wherein the said output drivers (7) comprise at least one driver for a DAB network to transmit selected information as a radio program-accompanying service.

29. The data broadcasting system according to one of the claims 23 to 28, wherein the said output drivers (7) comprise at least one driver for a teletext system to transmit selected information as a teletext page.

30. The data broadcasting system according to one of the claims 23 to 29, wherein the said output drivers comprise at least one fax driver (7') to transmit selected information as a fax.

31. The data broadcasting system according to one of the claims 23 to 30, wherein the said output drivers comprise at least one driver for display panels to display selected information on display panels.

32. The data broadcasting system according to one of the claims 23 to 31, wherein at least certain transmitted data are linked with order messages which order messages are able to be passed on by the recipients (9) to a suitable system (12) to request products or services.

33. The data broadcasting system according to one of the claims 23 to 32, wherein it is set up such that the transmission criteria in the said storage area (50) are able to be administered by the users through at least one telecommunications system (8, 14).

34. The data broadcasting system according to the preceding claim, wherein it is set up such that the transmission criteria in the said storage area (50) are able to be administered by the users with the aid of the Internet (11).

35. The data broadcasting system according to one of the claims 33 or 34, wherein it is set up such that the transmission criteria in the said storage area (50) are able to be administered by the users with special messages

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through a mobile radio network (8).

36. The data broadcasting system according to one of the claims 34 to 35, wherein it is set up such that the transmission criteria in the said storage area (50) are able to be administrated by the users with standardized order codes through a mobile radio network (8), the identity of the users being automatically established in the mobile radio network with a user data base (131).

37. The data broadcasting system according to one of the claims 23 to 36, wherein the transmission criteria (50) comprise at least one data type.

38. The data broadcasting system according to one of the claims 23 to 37, wherein at least certain of the transmission criteria (50) indicate at least one data service.

39. The data broadcasting system according to one of the claims 23 to 38, wherein at least certain of the transmission criteria comprise a standardized set of various data from different information suppliers (1).

40. The data broadcasting system according to the preceding claim, wherein the particular data in the set comprise all the information concerning an exhibition necessary for the visitors.

41. The data broadcasting system according to one of the claims 23 to 40, wherein at least certain of the transmission criteria comprise transmission time criteria.

42. The data broadcasting system according to one of the claims 23 to 41, wherein at least certain of the transmission criteria comprise transmission periodicity criteria.

43. The data broadcasting system according to one of the claims 23 to 42, wherein at least certain of the transmission criteria comprise event criteria.

44. The data broadcasting system according to one of the claims 23 to

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43, wherein at least certain of the transmission criteria (50) indicate data which are filed in the information data base (3) only if at least one user has selected these data.

45. The data broadcasting system according to one of the claims 23 to 44, wherein it further comprises a billing system (6) to bill the transmission of information to the user.

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Abstract

Method for broadcasting addressed data to a multiplicity of users (9) via various broadcasting channels (8), comprising the following steps:

5

Setting up at least one information data base (3, 3', ...), which contains data that are intended to be transmitted through at least one of said broadcasting channels (8), the stored data from a multiplicity of information suppliers being transmitted through at least one communication channel (2) into the information data base (3),

10

Storing of transmission criteria (50) for each user or each user group, the transmission criteria comprising indications about the data from the information data base (3, 3') that have to be transmitted to each user or each user group, as well as an indication about the selected broadcasting channel (8),

15

Automatic selection of the data to be transmitted according to the stored transmission criteria, and transmission of this data to the user (9) or to the user group through the selected broadcasting channel (8).
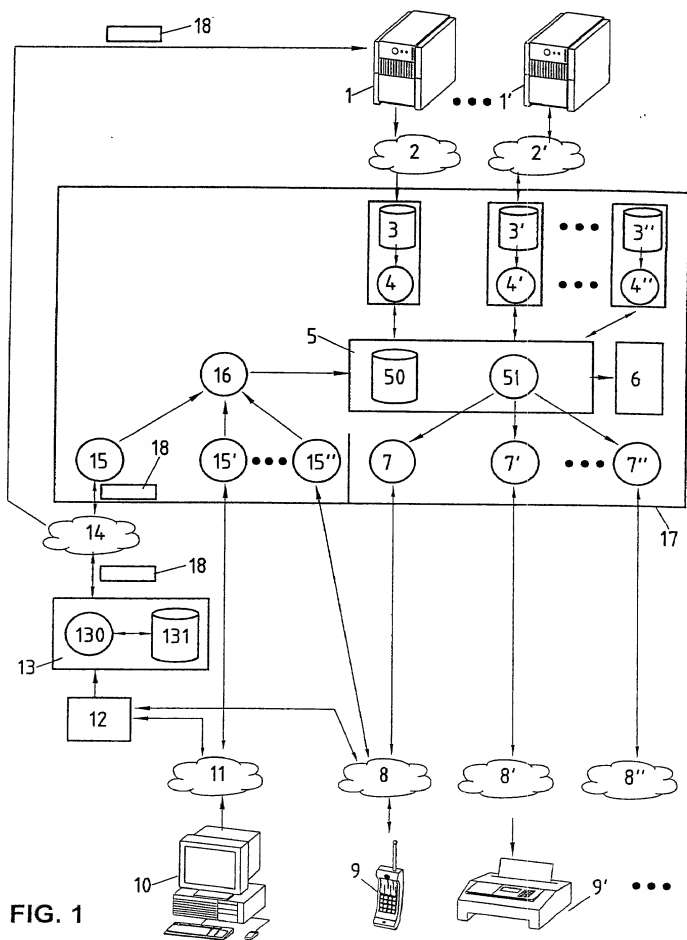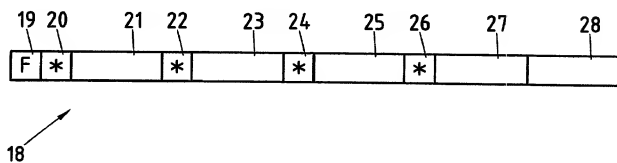
20

25

(Figure 1)

FIG. 1

FIG. 2

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED

Data Broadcasting System and Data Broadcasting Method

the specification of which (CHECK applicable BOX(ES))

X -> XX is attached hereto.

BOX(ES) -> [ ] was filed on _____ as U.S. Application No. 0_/_____

-> XX was filed as PCT International Application No. PCT/CH 9800148 on 17 April 1998

-> -> and (if U.S. or PCT application amended) was amended on _____

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

PRIOR FOREIGN APPLICATION(S) Number	Country	Day/MONTH/Year Filed	Date first Laid- open or Published	Date Patented or Granted	Priority Claimed Yes No
--	--	--			

I hereby claim domestic priority benefit under 35 U.S.C. 119/120/365 of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S) Application No. (series code/serial no.)	Day/MONTH/Year Filed	Status pending, abandoned, patented.	Priority Claimed Yes No

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint Pillsbury Madison & Sutro LLP, Intellectual Property Group, 1100 New York Avenue, N.W., Ninth Floor, East Tower, Washington, D.C. 20005-3918, telephone number (202) 861-3000 (to whom all communications are to be directed), and the below-named persons (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names/numbers below of persons no longer with their firm and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above Firm and/or a below attorney in writing to the contrary.

Paul N. Kokulis	16773	Donald J. Bird	25323	Lynn E. Eccleson	35861	Roger R. Wise	31204
Raymond F. Lippitt	17519	Peter W. Gowdey	25872	David A. Jakopin	32995	Jay M. Finkelstein	21082
G. Lloyd Knight	17698	Dale S. Lazar	28872	Mark G. Paulson	30793	Anita M. Kirkpatrick	32617
Carl G. Love	18781	Glenn J. Perry	28458	Timothy J. Klima	34852	Michael R. Dzwonczyk	36787
Edgar H. Martin	20534	Kendrew H. Colton	30368	Stephen C. Glazier	31361	W. Patrick Bengtsson	32456
William K. West, Jr.	22057	Paul E. White, Jr.	32011	Paul F. McQuade	31542	Jack S. Barufka	37087
Kevin E. Joyce	20508			Ruth N. Morduch	31044	Adam R. Hess	41835
George M. Sirilla	18221	G. Paul Edgell	24238	Richard H. Zaitlen	27248		

1. INVENTOR'S SIGNATURE: _[signature]_ _____ Date 15.08.2000

Inventor's Name (typed) __Walter__ | -- | __HEUTSCHI__ Switzerland
     First   Middle Initial   Family Name   Country of Citizenship
Residence (City) 3303 Jegenstorf CH✗ (State/Foreign Country) Switzerland
Post Office Address (Include Zip Code) Jungfrauweg 8, 3303 Jegenstorf (Switzerland)

2. INVENTOR'S SIGNATURE: _[signature]_ _____ Date 15.08.2000

Inventor's Name (typed) __Rudolf__ | -- | __RITTER__ Switzerland
     First   Middle Initial   Family Name   Country of Citizenship
Residence (City) 3052 Zollikofen CH✗ (State/Foreign Country) Switzerland
Post Office Address (Include Zip Code) Rossweidweg 8(3052 Zollikofen (Switzerland)

3. INVENTOR'S SIGNATURE: _[signature]_ _____ Date 15.08.2000

Inventor's Name (typed) __Hanspeter__ | -- | __BOUQUET__ Switzerland
     First   Middle Initial   Family Name   Country of Citizenship
Residence (City) 3032 Hinterkappelen CH✗ (State/Foreign Country) Switzerland
Post Office Address (Include Zip Code) Kappelenring 49A, 3032 Hinterkappelen (Switzerland)

(FOR ADDITIONAL INVENTORS, check box [ ] and attach sheet (PAT-116.2) for same information for each re signature, name, date, citizenship, residence and address.)